National Institute of Environmental Health Sciences

Biological and ecological characteristics of soft ticks (Ixodida: Argasidae) and their impact for predicting tick and associated disease distribution

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Abstract:

As evidence of global changes is accumulating, scientists are challenged to detect distribution changes of vectors, reservoirs and pathogens caused by anthropogenic and/or environmental changes. Statistical and mathematical distribution models are emerging for ixodid hard ticks whereas no prediction has ever been developed for argasid ones. These last organisms remain unknown and under-reported; they differ from hard ticks by many structural, biological and ecological properties, which complicate direct adaptation of hard tick models. However, investigations on bibliographic resources concerning these ticks suggest that distribution modelling based on natural niche concept and using environmental factors especially climate is also possible, bearing in mind the scale of prediction and their specificities including their nidicolous lifestyle, an indiscriminate host feeding and a short bloodmeal duration, as well as a flexible development cycle through diapause periods.

Source: http://dx.doi.org/10.1051/parasite/2009163191

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Tick-borne Disease

Tick-borne Disease: General Tick-borne Disease

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☑

format or standard characteristic of resource

Review, Review

Timescale: ☑

time period studied

Time Scale Unspecified